

Computational Chemistry | Drug Discovery | Molecular Dynamics
Quantum Mechanics of Water | Biofilm Science | Water Reuse

Job History...

- 2003-Present: [AquaMem Scientific](#), Founder & CEO
- 2013-Present: [Adjunct Professor, Victoria Univ., Melbourne](#)
- 2019-Present: [Associate Real Estate Broker](#), New Mexico
- 1981-2002: Director of Research, [Orange County Water Dist.](#)
- 1978-1981: Postdoctoral Research Scientist, UC Irvine, CA
- 1976-1978: NIH Postdoctoral Fellow, UC San Diego



Education...

- 1968: [GCC](#), San Diego
- 1971: BSc, Microbiology, [SDSU](#)
- 1976: PhD, Microbiology, [UCSD](#)

Scientific Expertise...

- Computational Drug Discovery
- Molecular Dynamics of Materials
- Quantum Mechanics of Water
- Biofilm Science & Technology
- Water reuse & desalination

R&D Management...

- R&D Strategic Planning
- Project Conception
- Project Management
- Grants & Contracts
- Team Building
- Personnel Management
- Scientific Publications

Emphasis:



Computational Drug Discovery

Molecular Dynamics: Synthetic Membranes

QM/MM Modeling: DBP Formation

AquaMem
Scientific Consultants
Project Focus Areas
2019-2020

Water Quantum Mechanics

Biofilms

Publications

Conferences

Coding

Grants

Software Proficiencies...

- Molsoft: drug discovery
- Yasara: drug discovery
- Hyperchem: QM, MD, MC
- XenoView: materials MD
- LAMMPS: materials MD
- Other open sources

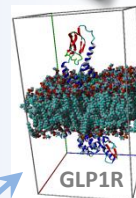


Publications
Conferences

2002
Recipient

Some Notable Career Achievements...

- 1976: [PMF drives bacterial gliding locomotion](#)
- 1978: [Localization of motility/chemosensory *E. coli* gene products](#)
- 1985: [Bacterial adhesion and biofilms cause membrane losses](#)
- 1989: [H₂ or S⁰ can be used for efficient biodenitrification](#)
- 1987: [CTC can be used to measure bacteria ETS activity *in situ*](#)
- 1987: Early adoption of [MD simulations for desalination polymers](#)
- 1995: [Molecular characterization of HC-degrading bacteria](#)
- 1996: [Develop chlorine-resistant CPTC desalination membranes](#)
- 2000-2001: [Helped establish the NSF/ERC Water Center at UIUC](#)
- 2010-2017: [First TCL scripts for non-equilibrium MD of DPB reactions](#)
- 2018: [In silico discovery of drugs to repurpose as biotoxin antagonists](#)
- 2019: [In silico discovery of drugs to repurpose as GLP1R agonists for diabetes](#)
- 2020: International antiviral drug-discovery team to fight SARS CoV-2



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